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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,435	05/05/2005	Masoud Bassiri	212/740US	6157

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EXAMINER	
WENDELL, ANDREW	
ART UNIT	**PAPER NUMBER**
2618	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/535,435	BASSIRI ET AL.	
	Examiner	Art Unit	
	Andrew Wendell	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-2 and 9-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Masuda et al. (US Pat Appl# 2004/0203911).

Regarding claim 1, Masuda et al. wireless communication restriction device, repeater and base station teaches at least one gateway antenna 431 (Fig. 4 and Section 0060) arranged at an entrance point of the enclosed environment so as to radiate downlink RF signals into and receive uplink RF signals from, the enclosed environment 100 (Fig. 4), respectively; at least one auxiliary repeater 410 (Fig. 4) arranged within the enclosed environment 100 (Fig. 4); a donor antenna 111 (Fig. 4) coupled to the auxiliary repeater; and a server antenna 312 (Fig. 4) coupled to the auxiliary repeater; wherein the auxiliary repeater relays the downlink 450 and 460 (Fig. 4) and uplink 360 and 451 (Fig. 4) RF signals using the donor antenna and the server antenna.

Regarding claim 2, Masuda et al. teaches wherein the auxiliary repeater 410 (Fig. 4) is mounted on a mobile conveyance movable in the enclosed environment 100 (Fig. 4) with the donor antenna 111 (Fig. 4) located outside the mobile conveyance and the server antenna 312 (Fig. 4) located inside the mobile conveyance.

Regarding claim 9, Masuda et al. teaches a first interface 430 (Fig. 4) that is coupled to a control station for converting downlink control data 450 (Fig. 4) into corresponding downlink control RF signals and for converting uplink signaling RF signals (to 440, Fig. 4) into corresponding uplink signaling data; a first combiner/decombiner that is coupled to the first interface for combining the downlink RF signals 450 (Fig. 4) with the downlink control RF signals for transmission by the gateway antenna 431 (Fig. 4), and for separating uplink RF signals from the uplink signaling RF signals (to 440, Fig. 4) received by the gateway antenna 431 (Fig. 4); a second interface 410 (Fig. 4) that is coupled to a signaling and driving system for converting the downlink control RF signals 460 (Fig. 4) into driver signals and for converting signaling signals into the uplink signaling RF signals 451 (Fig. 4); and a second combiner/decombiner that is coupled to the second interface 410 (Fig. 4) for combining the uplink RF signals 451 (Fig. 4) with the uplink signaling RF signals for transmission by the donor antenna 111 (Fig. 4) of the auxiliary repeater 410 (Fig. 4), and for separating the downlink RF signals 460 (Fig. 4) from the downlink control RF signals received by the donor antenna 111 (Fig. 4) of the auxiliary repeater 410 (Fig. 4).

Regarding claim 10, Masuda et al. teaches wherein the signaling and driving system is arranged in the mobile conveyance and comprises a driver for controlling the mobile conveyance based on the driver signals, and a sensor for producing the signaling signals based on a status of the mobile conveyance (Section 0020).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 3 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. (US Pat Appl# 2004/0203911) in view of Moriya et al. (US Pat# 6,108,535).

Regarding claim 3, Masuda et al. wireless communication restriction device, repeater and base station teaches the limitations in claims 1 and 2. Masuda et al. fails to teach a lift shaft and car.

Moriya et al. mobile communication system including service management of traffic machines teaches wherein the enclosed environment is in a lift shaft 37 (Fig. 11), the mobile conveyance is a lift car 34 (Fig. 11) and the gateway antenna 7A (Fig. 11) is arranged at a ceiling of the lift shaft.

Therefore it would have been obvious at the time the invention was made to incorporate a lift shaft and car as taught by Moriya et al. into Masuda et al. wireless communication restriction device, repeater and base station in order to reduce user's operation and waiting time (Col. 3 lines 3-10).

Regarding claim 11, the combination including Moriya et al. teaches wherein the signaling and driving system further comprises a signal generator 31, 32, and 36 (Fig. 11) being operable by an operator 11 (Fig. 11) of the mobile conveyance 34 (Fig. 11).

Regarding claim 12, Masuda et al. teaches at least one gateway antenna 431 (Fig. 4) arranged to radiate downlink RF signals 450 (Fig. 4) into and receive uplink RF signals 451 (Fig. 4) from inside, the shaft 100 (Fig. 4), respectively; an auxiliary repeater 410 (Fig. 4) mounted on the car 100 (Fig. 4); a donor antenna 111 (Fig. 4) coupled to the auxiliary repeater 410 (Fig. 4) and located outside of the car 100 (Fig. 4); and a server antenna 312 (Fig. 4) coupled to the auxiliary repeater 410 (Fig. 4) and located inside the car 100 (Fig. 4); wherein the auxiliary repeater 410 (Fig. 4) relays the uplink 360 and 451 (Fig. 4) and downlink RF signals 450 and 460 (Fig. 4) between outside and inside of the car 100 (Fig. 4) using the donor antenna 111 (Fig. 4) and the server antenna 312 (Fig. 4). Masuda et al. fails to teach a lift shaft, a lift car, and a gateway antenna arranged at a ceiling of the lift shaft.

Moriya et al. teaches a lift shaft 37 (Fig. 11); a lift car 34 (Fig. 11) that is moveable within the lift shaft 37 (Fig. 11); at least one gateway antenna 7A (Fig. 11) arranged at a ceiling of the lift shaft 37 (Fig. 11) so as to radiate downlink RF signals into and receive uplink RF signals from inside, the lift shaft, respectively (Col. 13 line 53-Col. 14 line 19).

Regarding claim 13, Masuda et al. teaches a first interface 430 (Fig. 4) that is coupled to a control station for converting downlink control data 450 (Fig. 4) into corresponding downlink control RF signals and for converting uplink signaling RF signals (to 440, Fig. 4) into corresponding uplink signaling data; a first combiner/decombiner that is coupled to the first interface for combining the downlink RF signals 450 (Fig. 4) with the downlink control RF signals for transmission by the

gateway antenna 431 (Fig. 4), and for separating uplink RF signals from the uplink signaling RF signals (to 440, Fig. 4) received by the gateway antenna 431 (Fig. 4); a second interface 410 (Fig. 4) that is coupled to a signaling and driving system for converting the downlink control RF signals 460 (Fig. 4) into driver signals and for converting signaling signals into the uplink signaling RF signals 451 (Fig. 4); and a second combiner/decombiner that is coupled to the second interface 410 (Fig. 4) for combining the uplink RF signals 451 (Fig. 4) with the uplink signaling RF signals for transmission by the donor antenna 111 (Fig. 4) of the auxiliary repeater 410 (Fig. 4), and for separating the downlink RF signals 460 (Fig. 4) from the downlink control RF signals received by the donor antenna 111 (Fig. 4) of the auxiliary repeater 410 (Fig. 4).

Regarding claim 14, the combination including Moriya et al. teaches wherein the signaling and driving system is arranged in the lift car 34 (Fig. 11) and comprises a driver 31 and 32 (Fig. 11) for controlling the lift car 34 (Fig. 11) based on the driver signals, and a sensor 32 (Fig. 11) for producing the signaling signals based on the status of the lift car.

Regarding claim 15, the combination including Moriya et al. teaches wherein the signaling and driving system further comprises a signal generator being operable by a user 11 (Fig. 11) of the lift car 37 (Fig. 11).

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. (US Pat Appl# 2004/0203911) in view of Shields (US Pat# 6,701,157).

Regarding claim 4, Masuda et al. wireless communication restriction device, repeater and base station teaches the limitations in claims 1 and 2. Masuda et al. fails to teach adjustable gain based on distance.

Shields transmitter circuit architecture teaches an amplifier having a gain that is adjustable based on a distance between the mobile conveyance and the gateway antenna (Col. 2 lines 61-67).

Therefore it would have been obvious at the time the invention was made to incorporate adjustable gain based on distance as taught by Shields into Masuda et al. wireless communication restriction device, repeater and base station in order to allow a maximum number of remote stations to communicate with the base station (Col. 3 lines 40-43).

5. Claims 5-8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. (US Pat Appl# 2004/0203911) in view of Yarkosky (US Pat# 6,895,218).

Regarding claim 5, Masuda et al. wireless communication restriction device, repeater and base station teaches the limitations in claim 1. Masuda et al. fails to teach auxiliary repeaters arranged in cascade.

Yarkosky's in-building distribution using wireless access technology teaches a plurality of auxiliary repeaters 358, 362, and 366 (Fig. 8) arranged spaced apart from each other in a cascade within the enclosed environment 354 (Fig. 8).

Therefore it would have been obvious at the time the invention was made to incorporate auxiliary repeaters arranged in cascade as taught by Yarkosky into

Masuda et al. wireless communication restriction device, repeater and base station in order to lower costs and reduce cabling (Col. 2 lines 28-36).

Regarding claim 6, Masuda et al. teaches wherein the auxiliary repeater 410 (Fig. 4) in the first group are mounted (Section 0056) to respective mobile conveyances 100 (Fig. 4) of a train of mobile conveyances (Fig. 4) movable in the enclosed environment, with the donor antenna 111 (Fig. 4), coupled to at least a leading auxiliary repeater 410 (Fig. 4) or a trailing auxiliary repeater of the auxiliary repeater in the first group, being arranged outside the mobile conveyance (Fig. 4), the donor antennas coupled to the other auxiliary repeater in the first group and the server antennas 112 (Fig. 2) coupled to the auxiliary repeater 110 (Fig. 2) in the first group arranged inside the respective mobile conveyance 100 (Fig. 2). Masuda et al. fails to teach a first and second group of auxiliary repeaters and the second group of repeaters arranged to be outside.

Yarkosky teaches a first 352 and 358 (Fig. 8) and second group 362 and 366 (Fig. 8) of auxiliary repeaters, and the second group of repeater 352 (Fig. 8) arranged to be outside 354 (Fig. 8).

Regarding claim 7, the combination including Masuda et al. teaches wherein the enclosed environment is the inside of a tunnel (Section 0060).

Regarding claim 8, the combination including Yarkosky teaches a plurality of antennas 358, 362, and 366 (Fig. 8) arranged at respective entrance points of the enclosed environment 354 (Fig. 8).

Regarding claim 18, the combination including Masuda et al. teaches wherein the enclosed environment is the inside of a tunnel (Section 0060).

6. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. (US Pat Appl# 2004/0203911) in view of Moriya et al. (US Pat# 6,108,535) and further in view of Shields (US Pat# 6,701,157).

Regarding claim 16, Masuda et al. wireless communication restriction device, repeater and base station in view of Moriya et al. mobile communication system including service management of traffic machines teaches the limitations in claims 12-15. Moriya et al. teaches wherein the sensor 32 (Fig. 11) is adapted to provide information about the location of the lift car within the lift shaft, and to the first interface so that the information can be used by the control station to control the location of the lift car 34 (Fig. 11) in the lift shaft 37 (Fig. 11). Masuda et al. and Moriya et al. fails to teach controlling the gain of an amplifier of a repeater.

Shields transmitter circuit architecture teaches controlling the gain of an amplifier of a repeater (Col. 2 lines 61-67).

Therefore it would have been obvious at the time the invention was made to incorporate controlling the gain of an amplifier of a repeater as taught by Shields into a lift shaft and car as taught by Moriya et al. into Masuda et al. wireless communication restriction device, repeater and base station in order to allow a maximum number of remote stations to communicate with the base station (Col. 3 lines 40-43).

Regarding claim 17, Shields further teaches a amplifier having a gain that is adjustable based on a distance between the mobile conveyance and the gateway antenna (Col. 2 lines 61-67).

Response to Arguments

Applicant's Remarks	Examiner's Response
Regarding claim 1 and 2, "Masuda expressly teaches, in reference to his Figure 4, that the signal is not be relayed but is instead to be replaced so as to disable communication between the cell phone and the cell."	In Figure 4 of Masuda it shows a downlink 460 (Fig. 4) from the auxiliary repeater 410 (Fig. 4) and an uplink 360 (Fig. 4) to the auxiliary repeater 410 (Fig. 4). This reads on the claim and is clearly taught in the specification (Sections 0050 and 0056). There is a functionality of disabling the communication, but when not disabled the communication reads on applicant's claims.
"Regarding claim 10, Masuda's paragraph 0020 does not mention the claimed feature of controlling the mobile conveyance based on driver signals."	Masuda teaches controlling (disabling communication or enabling) the mobile conveyance (communication) based on driver signals (signals to disable or enable communication).
Regarding claim 3, "Because the claimed combination is not suggested by any	Both Masuda and Moriya systems are used for communication in an enclosed

motivation identified in the art, the claimed combination is non-obvious and patentable."	area (tunnel or elevator tunnel). Both are enclosed in a moving cart (train or elevator) and can be used to communicate with a mobile phone. Therefore Masuda and Moriya can be combined together. Moriya is used just to teach a lift shaft and a car and is combinable with Masuda for the reasons given above.
Regarding claim 12, "Because the claimed combination is not suggested by any motivation identified in the art, the claimed combination is non-obvious and patentable."	The response above for claim 3.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Wendell whose telephone number is 571-272-0557. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Wendell
Examiner
Art Unit 2618

2/8/2007

NAY MAUNG
SUPERVISORY PATENT EXAMINER